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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,074	04/23/2001	Gerhard Coufal	2001-0462A	9813

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EXAMINER

BALASUBRAMANIAN, VENKATARAMAN

ART UNIT	PAPER NUMBER
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1624

DATE MAILED: 05/16/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/830,074	COUFAL, GERHARD	
Examiner	Art Unit		
Venkataraman Balasubramanian	1624		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 10 March 2003 .

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 15-26 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 15-26 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.

2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6)  Other: \_\_\_\_\_ .

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission, which included cancellation of claims 1-14, and addition of new claims 15—26, filed on 12/4/2003 has been entered.

Claims 15-26 are now pending.

In view of applicants' response, the following apply:

### ***Claim Objections***

Claims 22 and 26 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 22 and 26 recite a limitation, which is not recited in claim 15 on which these two claims are dependent.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15-17 and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kokubo et al. US 3,637,686 for reasons of record. Note this rejection is same as made in the previous office action except that the newly added claims 15-17 and 19-21 are rejected herein.

Applicants' traversal to overcome this rejection is not persuasive.

1. Contrary to applicants' urging that teaching of Kokubo would lead solid melamine that would clog the pipeline, there seems to no such problem reading the entire document of Kokubo.
2. Again, contrary to applicants' urging, the examples taught by Kokubo clearly recites molten melamine and in order to be in molten state the melamine must be at its melting point or above.
3. The temperature "about 1 °C" can be applied both ways. It can include the melting point or temperature of the molten melamine taught by Kokubo and the temperature of the instant melamine can be at the melting point of melamine given the fact that about 1 °C is common in industrial process. Applicants have not provided any evidence that the instant process is controlled in such away that the temperature range recited in the invention is not subjected to any such variation.

Thus, there is no showing that applicants' process controls the temperature to such and extent that a one degree variation (i.e. 1° C below the recited lower limit of the instant process that is the melting point of melamine)) or a small variation is never

permitted. Secondly, the claim language permits "about 1° C, which can include the melting point temperature of melamine or melamine in molten state.

Hence one trained in the art would know that such a small variation in temperature is permissible in such industrial process and would consider few degree variations from the teaching of Kobuko as acceptable as long as melamine is in molten stage. See *In re Petering et al* 133 USPQ 275; *In re Schaumann*, 195 USPQ 5, *In re Sivaramakrishnan* 213 USPQ 441 wherein a small genus is attested to be anticipated by single exemplified species in the genus.

Hence the rejection is proper and is maintained.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kokubo et al. US 3,637,686 in view of Elvers et al. Ullmann's Encyclopedia of Industrial Chemistry, 5th Edition, vol A16, 174-179, 1978 for reasons of record.

The rejection is same as made in the previous office action except that the newly added claims 15-26 are rejected herein.

Applicants' argument to overcome this rejection is not persuasive. See the examiner's rebuttal of applicants' traversal noted in the above 102 rejection. In addition, the following apply:

1. First of all as noted before, the declaration of Gerhard Coufal is not sufficient to obviate the 103 rejection for more than one reasons as noted in the previous office action. To repeat:

First of all, the comparative data provided is not relevant as the comparisons of the processes are not proper. Applicants have elected to use temperature of 370° C for the comparison with the instant process at 320° C but have not provided the rationale for selecting the above use of temperature of 370° C. It is not clear what prior art process applicants are trying to obviate as obvious variant.

One trained in the art would know that given the identical conditions as in the comparative experiments, a variation in temperature would influence the rate of the reaction based on his knowledge of Arrhenius equation. In the instant case the formation of hydrolysis product of melamine is likely to increase with increase with temperature given the fact that all other experimental conditions remain the same. Hence, the improvement in purity of melamine is not unexpected but obvious. The choice of the temperature of 370° C if arbitrary, then the results are biased and are not significant to obviate the obviousness.

In response, applicants appear to argue that the temperature is the median temperature of the known processes and therefore it is not an arbitrary choice. But such argument is not proper and is contradictory. First of all, Kokubo teaches

not more than 300° C. Therefore a proper comparison should be at that temperature not above that.

Furthermore, in one hand applicants argue that Kokubo teaches temperature less than 300° C, but on the other hand asserts that the selected temperature is proper. Hence applicants' traversal is not proper.

Most of all, applicants have not shown any comparative data with the closest prior art process, See MPEP 716.02(b), which states:

The evidence relied up should establish "that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance." Ex parte Gelles, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992). Note Gelles, especially the following quote: " The evidence relied upon also should be reasonably commensurate in scope with the subject matter claimed and illustrate the claimed subject matter " as a class" relative to prior art subject matter."

For these reasons the 103 rejection is proper and is maintained.

Claims 15-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kokubo et al. US 3,637,686 in view of Manes US 3,386,999.

Teachings of Kokubo et al. as discussed in the above 102/103 rejections are incorporated herein. As noted above Kokubo et al. teaches a two-step process for obtaining pure melamine.

Kokubo et al. however, applicants assert, teaches a temperature range with upper limit of 300° C, while applicants comparative data show 320°C.

The secondary reference, Manes teaches a process for making melamine wherein the hot reaction gas mixture is treated with small amount of water to remove cyanic acid and any other melamine precursors at 320°C. See col. 1 -2 for process in general. Particularly, see lines 55-71 of col. 1 and lines 1-32 of col. 2 where in the teaching of addition of small amount of water is shown. See col. 3-6 for further details of the process and example. Note Manes teaches the purpose of the addition of water is not to quench but to reduce cyanic acid and other precursors of melamine without the concomitant deposition of solid melamine. Note manes teaches the temperature of the reaction at "any event must be kept about 320° C." Note also Manes teaches subsequent aqueous quenching of the melamine to obtain solid product. See lines 16-32, col. 2., column 3 and column 4. Also see example 1 on column 4 through column 5.

In view of clear-cut teaching of 320°C as the temperature for initial quench and its benefit, one trained in the art would be motivated to optimize the temperature and arrive at 320°C for the initial treatment of melamine. Thus one having ordinary skill in the art at the time of the invention was made would have been motivated to combine both the primary reference which teaches cooling with ammonia and subsequent quenching process and secondary reference which teaches the addition of small amount of water to reduce impurities in the melamine and employ the process taught by these prior art and expect to obtain the desired product because he would have expected the analogous process work similarly.

Claims 15-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canzi et al. US 5,721,363 in view of Van Hardeveld US 4,408,046 for reasons of record.

The rejection is same as made in the previous office action except that the newly added claims 15-26 are rejected herein.

Applicants' argument to overcome this rejection is not persuasive.

1. Contrary to applicants' urging, Canzi et al. teaches cooling of melamine at a temperature above the melting point of melamine. See col. 1, step c and col.2.
2. Van Hardeveld et al. clearly teaches treatment of melamine both from high pressure and low pressure process with aqueous mother liquors to obtain high purity melamine. See column 2, lines 30-68.
3. Applicants have not shown why combination of these two art would not be an obvious variant. See above discussion of the declaration, which is deemed, as not acceptable.

For these reasons the 103 rejection is proper and is maintained.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canzi et al. US 5,721,363 in view of in view of Manes US 3,386,999.

Teachings of Canzi et al and Manes et al. as discussed in the above 103 rejections are incorporated herein.

Instant claims recite a cooling temperature of 1 to 50°C above the melting point of melamine thus differs in reciting a some what narrower range than what is taught in Canzi et al. as noted above. Manes et al. clearly teaches the benefit of using 320°C, which is just above the melting point of melamine for a similar quenching/cooling step.

In view of clear-cut teaching of 320°C as the temperature for initial quench and its benefit, one trained in the art would be motivated to optimize the temperature and arrive

at 320°C for the initial treatment of melamine. Thus one having ordinary skill in the art at the time of the invention was made would have been motivated to combine both the primary reference which teaches cooling with ammonia and subsequent quenching process and secondary reference which teaches the addition of small amount of water to reduce impurities in the melamine and employ the process taught by these prior art and expect to obtain the desired product because he would have expected the analogous process work similarly.

***Conclusion***

Any inquiry concerning this communication from the examiner should be addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (703) 305-1674. The examiner can normally be reached on Monday through Thursday from 8.00 AM to 6.00 PM. The Supervisory Patent Examiner (SPE) of the art unit 1624 is Mukund Shah whose telephone number is (703) 308-4716.

The fax phone number for the organization where this application or proceeding is assigned (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

*V. Balasubramanian*  
Venkataraman Balasubramanian

5/14/2003